

Bee Campus USA - Michigan State University

Report on 2024

Pollinator Habitat Creation & Enhancement

Please describe pollinator habitat creation or enhancement projects in your community in 2024, and whether your committee hosted them or not.

MSU hosts an event called Spartan Day of Serve every April and October. Members of the MSU Bee Campus USA committee organized service projects at our campus pollinator gardens for the spring and fall. Students and community volunteers helped mulch, weed, divide pollinator plants, and implement invasive plant control at the pollinator gardens. In addition, Beal Garden, the university botanical garden, hosted events throughout the year which included weeding and dividing and planting pollinator material with the help of volunteers along the Red Cedar River. On April 26th, 2024, Landscape Services and Beal Botanical Gardens joined forces to celebrate Arbor Day in a memorable way. This year was especially meaningful, as it marked the 150th anniversary of Beal Botanical Garden. To honor this milestone, 150 native trees were planted along the Red Cedar River, enhancing the beauty of the landscape and fostering a healthier, more sustainable environment after an invasive species removal project. This effort not only contributed to the local ecosystem but also increasing green cover and supporting biodiversity for years to come. In the Fall of 2024, Environmental Studies and Sustainability United teamed up with the dedicated staff at Beal Botanical Garden to create a vibrant pollinator garden in front of the Natural Resources Building. This new garden not only adds beauty to the campus, but also supports local pollinators like bees and butterflies, promoting biodiversity and contributing to the health of our ecosystem. It's a space for both nature and students to thrive

How many habitat projects did you help to create or enhance in 2024?

8

How many people (staff, volunteers, students, partners, etc.) helped with those projects?

168

How many projects benefit monarchs, milkweed, or nectar plantings?

5

Please check all that describe the habitats your affiliate helped to create or enhance last year with pollinator benefit in mind.

- Flower garden
- Vegetable garden

- Orchard
- Natural area with tree snags and stumps, and bare areas for ground nesting species
- Meadow
- Pollinator-friendly lawn (with flowering clover, dandelions...)
- Herb garden
- Native milkweed planting for monarchs and bees (where appropriate)
- Invasive/exotic plant species removal for habitat improvement
- Native pollinator-friendly tree planting
- Native pollinator-friendly shrub border/hedgerow planting
- Rain garden/bioswale
- Roadside/rights of way planting
- School garden



Environmental Studies and Sustainability United Student Group (Photo Credit: Emily HSB)



Rain Garden (Photo Credit: Matt Bailey)



MSU Natural Area (Photo Credit: Matt Bailey)

Education & Outreach

Please describe pollinator conservation events or outreach activities in your community in 2024, indicating whether your committee hosted them or not.

MSU is home to the Michigan Pollinator Initiative, which seeks to develop a coordinated research, education, extension, and policy driven effort to address priority issues related to pollinators and pollination in Michigan. MSU works with partners around the state in pursuit of research-based solutions for beekeepers, growers, land managers,

and policy makers to promote economic vitality and ecological stability. The Michigan Pollinator Initiative is a central place for pollinator-related information, events, and programs; two members of the MSU Pollinator Committee co-manage the Michigan Pollinator Initiative. In addition, MSU Extension also provides extensive resources and programs for the public for covering pollinators and pollination as well as integrated pest management. Example MSU Extension programs include Heroes to Hives, which provides beekeeping education for Veterans, Reservists, Active Duty, or National Guard members of the U.S. Armed Forces and their adult children, spouses, partners and caregivers; Pollinator Champions, a free, self-paced online course that provides a primer on pollinators, pollination, and pollinator protection; and the Integrated Pest Management Academy that provides a comprehensive introduction to IPM. In 2024, we held two signature events focused around pollinators. Members of our Pollinator Committee were involved in the planning of both events. Our largest event was Beepalooza, focused on the importance of native bees and native plants. This annual event numerous activities including making seed bombs with native Michigan plants, an iNaturalist project to record species of bumblebees in the garden, a bee “petting zoo”, and various handouts for children and adults. Over 300 people were in attendance. Michigan Beekeepers Association in partnership with MSU Extension hosted the Michigan Beekeepers Association Spring Conference on campus. The Michigan Beekeepers Association has served Michigan beekeepers for more than 150 years, and it supports over 30 local beekeeping clubs in Michigan.

How many pollinator-related events or outreach activities did you host or help with in 2024 (in total)?

24

How many people attended those events (in total)?

2180

Number of permanent interpretive/educational/Bee Campus USA signs installed to date?

10



SUSTAINABLE SPARTANS
POLLINATOR GARDEN

BUSINESS PAVILION
POLLINATOR CORRIDOR

WHAT IS A POLLINATOR GARDEN?
 A garden designed with specific native pollinating plants that attract pollinators such as bees and butterflies.

WHAT PLANTS CAN BE FOUND IN THE GARDEN?
 The Pollinator Garden is a collection of native pollinators found throughout Michigan. We specifically chose plants with red and orange colors to attract butterflies and hummingbirds.

HOW DOES POLLINATION WORK?

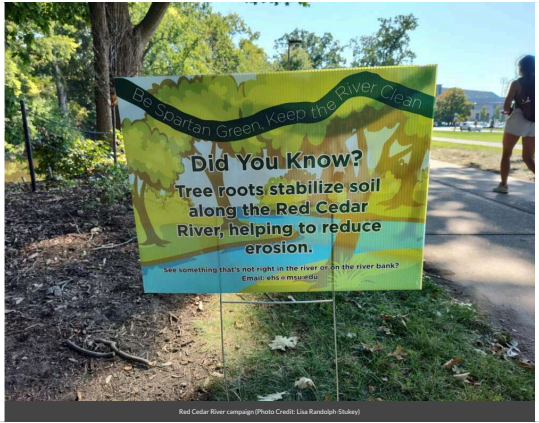
1. Pollinator visits flower to collect nectar. While on flower, pollen collects on the pollinator.
2. Pollinator travels to other flowers and disperses the pollen collected.
3. Flowers become fertilized, which enables the plant to form fruit. This fruit carries seeds that will help start the growth of another flower.

DID YOU KNOW?
 You can create a pollinator garden in your own backyard! Support pollinators by including native plants in your garden.

FOR MORE INFORMATION VISIT
www.beegarden.com/pollinatorgarden.html

MICHIGAN STATE UNIVERSITY SUSTAINABILITY

Pollinator garden signage (Photo Credit: Matt Bailey)



Curriculum, Continuing Education, & Service Learning

Please describe the curriculum your campus engaged in 2024, indicating whether it was part of a for-credit course or continuing education.

As an agriculture school, MSU offers a diverse range of pollinator educational credit experiences. The Horticulture department provides a deep look into cutting edge crop cultivation in class HRT 242 and HRT 401. These classes give an in depth view of the flowering responses of horticultural crop plants to environmental variables, which play an important part to the stability of pollinators. When pollinator environments have been damaged, the ecological restoration process can be extensive. In FW 443 the principles of ecological restoration of disturbed or damaged ecosystems are explored through design, implementation, and presentation of restoration plans. During the course, students do hands on work on the pollinator habitat restoration which is taking place south of the Communication Arts. Here they learn about assessing habitat for pollinator abundance and diversity. In NSC 192 environmental issues are examined from a variety of perspectives. Two of the sessions are devoted to bees/pollinators and the impact that every day decisions can have on these important tools of nature. Because humans have such an impact on the environment and the loss of environment has such an impact on humans, AFRE 265 looks at the relationship between the economy and the natural environment. Economic and sustainability concepts are applied to natural resources and agriculture to showcase the important that one cannot survive without the other. Pollinator Ecology and Management (ENT812, sect 002) is a graduate seminar class that runs every other fall. Students learn about bee diversity, conservation, factors affecting wild bee and managed bee health, current literature on pollinator declines, and specific crop pollination systems. In LCS 650, honeybee medicine clerkship explores honeybee medicine in the school of veterinary medicine. In this three-week course, fourth year veterinary students learn honeybee biology, diseases and diagnostics, and work with honeybees and beekeeping clients.

How many of your for-credit courses included pollinator-related information in 2024?

9

How many students attended those for-credit courses?

908

How many of your continuing education courses included pollinator-related information in 2024?

7

How many participants attended those continuing education courses?

137

Please describe the service-learning projects your students were engaged in 2024, indicating which, if any, were associated with a course.

In the last year, MSU's service-learning projects have been co-curricular experiences for our students. MSU hosts an event called Spartan Day of Service every April and October. On these days, students engage with campus partners in service projects in our campus pollinator gardens. They volunteered to help mulch, weed, divide pollinator plants, and implement invasive plant control at the pollinator gardens. Carolyn Miller, the campus plant recorder and member of MSU's Bee Campus USA committee, provides educational guidance to further enhance the educational experience. Over the course of the year, MSU Landscape Services and Beal Garden joined forces with the student group Environmental Studies and Sustainability United to bring a vibrant pollinator garden to life at the Natural Resources Building. The students first presented their vision to the MSU Bee Campus USA Committee, highlighting their commitment to fostering biodiversity on campus. With thoughtful guidance and expertise from staff, the student group worked side by side with Landscape Services and Beal Garden teams to refine the garden's design and carefully select the best plants and location for maximum impact and success.

How many service-learning projects did your campus host and/or support to enhance pollinator habitat on- and off-campus?

4

How many students participated in service-learning projects in 2024 to enhance pollinator habitat on or off-campus?

137



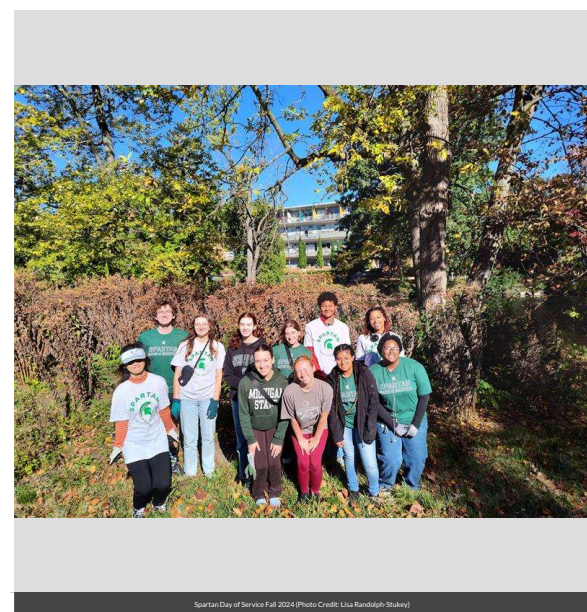
Beekeeping demonstration (Photo Credit: Meghan Milbrath)



Entomology Class (Photo Credit: Meghan Milbrath)



Beekeeping demonstration (Photo Credit: Meghan Milbrath)



Spartan Day of Service Fall 2024 (Photo Credit: Lisa Randolph-Stukey)



Spartan Day of Service Fall 2024 (Photo Credit: Lisa Randolph-Stukey)



Invasive species removal (Photo Credit: Carolyn Miller)

Policies & Practices

Please describe actions taken to make pest management more pollinator-friendly.

MSU's Landscape Services unit utilized principles of integrated pest management for grounds work on campus. MSU practices continued maintenance of healthy soil beds and healthy plant materials to reduce pesticide usage. Staff are trained to identify problems and to evaluate the threshold when corrective actions need to be taken. In the last year, Landscape Services has transitioned upwards of 50 acres to more naturally-managed, pollinator-friendly land; they

have ceased using pesticides on these areas and planted additional pollinator-friendly flower at these locations. They have also switched to tree injection instead of aerial spraying to reduce the amount of pesticide use on campus. Members of the MSU Bee Campus USA Committee also sit on the MSU Campus Landscape Stewardship Committee, where decisions are made related to new landscape projects on campus. Campus partners are working together to select disease and insect resistant plant materials to be used in the campus landscape, as well as increasing the number of native and pollinator-friendly species used in campus projects.

In your city or campus, are any policy initiatives underway to further protect pollinators, people or waterways from pesticides?

MSU released its Vision 2050: Facilities and Land Use Plan in December 2023. The plan establishes a framework promoting interconnected natural areas, biodiversity protection, and enhanced stormwater management. The plan identifies three supporting landscape strategies, one of which focuses on expanding the number and type of open spaces on campus, with a specific recommendation to increase the number of pollinator gardens on campus. As the plan moves into implementation, conversations are underway about building out a pollinator corridor along the banks of the Red Cedar River. In the 2024/25 Infrastructure, Planning and Facilities Landscape Services strategic plan, one initiative is to reduce mowing costs by 5 percent by decreasing regular mowed areas and return to native of pollinator type area. MSU has also moved away from blanket pesticide application and instead only does spot treatments as needed. Beyond the university, three MSU staff members serve on the Michigan Pollinator Protection Plan Steering Committee. The purpose of Michigan's Pollinator Protection Plan (MP3) is to improve and protect the health of pollinators in Michigan, while simultaneously protecting our crops, property, and human health. The Michigan Pollinator Protection Plan is led through Michigan Department of Agriculture and Rural Development (MDARD).

Did your committee participate in any continuing education on ecologically-based Integrated Pest Management planning?

Two members of the MSU Bee Campus USA Committee, Ana Heck and Meghan Milbraith, have appointments with MSU Extension. They are pollinator experts and offer continuing education programs throughout the year. In addition, MSU Landscape Services staff, who actively manage the campus grounds, are required to complete 40 hours of continued education annually. This includes 16 hours of pesticide application renewal credit hours.

Any lessons learned you would like to share?

Community is a core pillar of the MSU Sustainability Framework. We are a member of a number regional and peer institution networks focused around sustainability and global challenges, and seek opportunities to build relationships with external partners share best practices and lessons learned with others. This ethos extends to our work focused around pollinators. For example, MSU Landscape Services participates in the Big Ten and Friends Landscape Maintenance Groups, offering an opportunity to discuss our campus pollinator projects. While we are continuing to strengthen connections between our academic and operational partners on campus, we have a strong track record of providing science-based pollinator information to the public and delivering programs and initiatives in support of pollinators through the Michigan Pollinator Initiative and MSU Extension. For example, MSU is involved with policy development at the state-level to update the Michigan Managed Pollinator Protection Plan, which is focused on

improving and protecting the health of pollinators in Michigan, while also supporting the agricultural industry and human health. Three members of the MSU Bee Campus USA Committee serve on the steering committee of the state's Michigan's Pollinator Protection Plan administered by the Michigan Department of Agriculture and Rural Development. Relatedly, MSU is leading the National Managed Pollinator Protection Plans Working Group, which helps members from diverse stakeholder groups create and implement managed pollinator protection plans and programs that support pollinator health. We are open to additional opportunities to teach and mentor other organizations, including affiliates, through these endeavors.

Committee Photo

Learn More

Integrated Pest Management Plan: [Landscape Services Invasive Species Policy.pdf](#)

Recommended Native Plant List:

https://www.canr.msu.edu/nativeplants/plant_facts/

Recommended Native Plant Supplier List: [Sources for Native Michigan Plants.pdf](#)

<https://sustainability.msu.edu/About/Progress/Pollinator-Friendly-Campus>
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<https://www.facebook.com/msusustainability>